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EXAMINER

HIGGINS, GERARD T

ART UNIT PAPER NUMBER

1794

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/567,839	<b>Applicant(s)</b> MEINDERS ET AL.	
	<b>Examiner</b> GERARD T. HIGGINS	<b>Art Unit</b> 1794	

– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 7-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>08/03/2007</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Election/Restrictions***

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6, drawn to an optical recording medium.

Group II, claim(s) 7-17, drawn to a method of using an optical recording medium.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the method of using an optical recording medium has the special technical features of a "writing strategy providing a channel bit length and a mark width;" furthermore, Group II has the special technical features of being writeable at one wavelength and readable at a second different wavelength, all of which are not seen in Group I, and therefore these Groups lack unity of invention.

3. During a telephone conversation with Michael Belk on 02/25/08 a provisional election was made with traverse to prosecute the invention of Group I, claims 1-6.

Affirmation of this election must be made by applicant in replying to this Office action.

Claims 7-17 are withdrawn from further consideration by the examiner, 37

CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

***Priority***

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Specification***

6. The disclosure is objected to because of the following informalities:

- a. There are no titles for the various sections of the disclosure.
- b. The sentence on page 9, lines 11 and 12 is awkward.

Appropriate correction is required.

7. The use of the trademark BLU-RAY DISC has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

***Claim Rejections - 35 USC § 102***

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

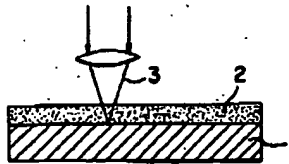
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Namba et al. (4,412,231).

Namba et al. disclose the recording medium of Figure 1.

**FIG. 1**

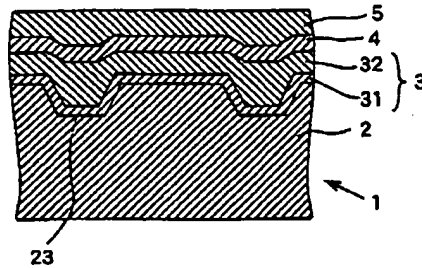


There is provided on the substrate 1 a recording layer 2 that is obtained "by mixing a plurality of dyes having different light absorbing wavelengths from each other" (col. 2, lines 7-24). They disclose numerous dyes that provide absorptions from 400-900 nm.

10. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shinkai et al. (5,776,656).

Shinkai et al. disclose the optical recording medium of Figure 2.

FIG. 2



The disc comprises a substrate 2 upon which a recording layer 3 is situated (col. 68, lines 49-64). The recording layer is made up of two sub-layers 31 and 32. The two sub-layers contain a 'B dye' and 'A dye', respectively. The disc also has a tracking groove 23. In Example 1 at col. 70, line 62 to col. 71, line 61 one formulation of the recording medium of Shinkai et al. is described. Two different dyes of the 'A' and 'B' type are used such that the recording medium may be recorded at 780 nm and read at 635 nm (col. 71, lines 25-32), or conversely it may be recorded 635 nm and read at 780 nm (col. 71, lines 40-46). Shinkai et al. disclose that both of these read/write scenarios satisfactorily meet the Orange Book standards.

### ***Claim Rejections - 35 USC § 103***

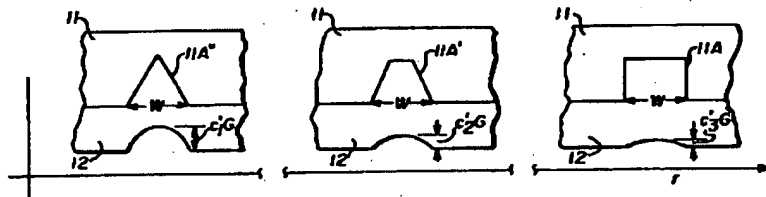
11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Namba et al. (4,412,231), as applied to claim 1, in view of either Durnin (5,500,266) or Yamada et al. (5,635,267).

Namba et al. disclose all the limitations of applicants' claim 1 in section 9 above; however, they fail to disclose a tracking groove comprised of at least two consecutive sections each having different widths.

Durnin discloses an optical storage medium wherein the width of the bottom part of the groove changes from a distance of 0 to the width of the opening of the groove depending on the radial distance from the center of the optical disc, Figure 3.



**FIG. 3**

They disclose that this construction is important to such that the "difference in phase between an optical path through a groove region and an optical path through a neighboring land region is approximately independent of the distance from the center of the disk" (col. 2, lines 22-51).

Yamada et al. disclose an optical recording medium, wherein there is an "outer zone in which the groove width decreases monotonically or stepwise as recording radius decreases" (Abstract and col. 4, lines 61-65). This is done such that the gain and servo control needs not be varied in reproduction (col. 9, lines 24-30).

Since Durnin, Yamada et al., and Namba et al. are all drawn to optical recording media, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the prior art knowledge of either Durnin or Yamada et al. into the recording medium of Namba et al. The results of which would have been predictable to one having ordinary skill in the art of optical disc manufacture; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately.

13. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinkai et al. (5,776,656), as applied to claim 1, in view of either Durnin (5,500,266) or Yamada et al. (5,635,267).

Shinkai et al. disclose all the limitations of applicants' claim 1 in section 10 above; however, they fail to disclose a tracking groove comprised of at least two consecutive sections each having different widths.

Durnin discloses an optical storage medium wherein the width of the bottom part of the groove changes from a distance of 0 to the width of the opening of the groove depending on the radial distance from the center of the optical disc, Figure 3.

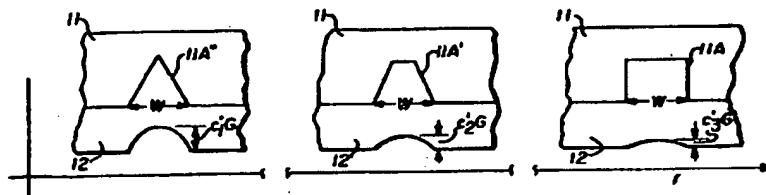


FIG. 3



They disclose that this construction is important to such that the "difference in phase between an optical path through a groove region and an optical path through a neighboring land region is approximately independent of the distance from the center of the disk" (col. 2, lines 22-51).

Yamada et al. disclose an optical recording medium, wherein there is an "outer zone in which the groove width decreases monotonically or stepwise as recording radius decreases" (Abstract and col. 4, lines 61-65). This is done such that the gain and servo control needs not be varied in reproduction (col. 9, lines 24-30).

Since Durnin, Yamada et al., and Shinkai et al. are all drawn to optical recording media, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the prior art knowledge of either Durnin or Yamada et al. into the recording medium of Shinkai et al. The results of which would have been predictable to one having ordinary skill in the art of optical disc manufacture; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately.

14. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Namba et al. (4,412,231) or Shinkai et al. (5,776,656), as applied to claim 1, in view of Murata (JP 2000-155974), machine translation included.

Namba et al. or Shinkai et al. disclose all of the limitations of applicants' claim 1; however they fail to disclose a tracking groove that comprises at least two sub-grooves having different widths.

Murata discloses the design of Figure 4.

【図4】



He describes at [0014] that this shape is used in the grooves of an optical recording medium to control the phase differences in an optical recording medium. He states that one may form between 2-5 steps of different widths as seen in Figure 4. This is done such that the disc becomes readable at two different wavelengths, particularly 780 and 650 nm [0027] and [0028].

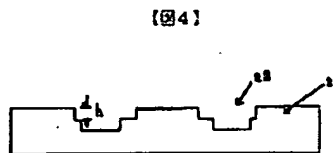
Since Namba et al., Shinkai et al., and Murata are all drawn to optical recording media, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the prior art element of having a stepped or tiered tracking groove structure of Murata within the optical recording media of Namba et al. or Shinkai et al. The results of which would have been predictable to one having ordinary skill; further, one of ordinary skill would have recognized that each of the elements would have performed the same in combination as they had separately.

15. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shinkai et al. (5,776,656), as applied to claim 1, in view of either Durnin (5,500,266) or Yamada et

al. (5,635,267), as applied to claim 5, further in view of Murata (JP 2000-155974), machine translation included.

Shinkai et al., as applied to claim 1, in view of either Durnin or Yamada et al. renders obvious applicants' claim 5 as seen in section 13 above; however, they fail to render obvious the at least two consecutive sections each having different widths comprising at least two sub-grooves having different widths.

Murata discloses the design of Figure 4.



He describes at [0014] that this shape is used in the grooves of an optical recording medium to control the phase differences in an optical recording medium. He states that one may form between 2-5 steps. This is done such that the disc becomes readable at two different wavelengths, particularly 780 and 650 nm [0027] and [0028].

Since Shinkai et al., Durnin, Yamada et al., and Murata are all drawn to optical recording media, it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the prior art element of having a stepped or tiered tracking groove structure of Murata within the optical recording media of Shinkai et al. in view of Durnin or Yamada et al. The results of which would have been predictable to one having ordinary skill, which includes further control and modification of the phase differences throughout the recording medium; further, one of ordinary skill

would have recognized that each of the elements would have performed the same in combination as they had separately.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The relevant prior art not used in the rejection involves the level of ordinary skill with respect to tracking groove structures. The cited 'X reference' EP 0676751 was not used because the Examiner deems the Namba et al. '231 reference to be a more comprehensive reference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 7:30am-5pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins, Ph.D.  
Examiner  
Art Unit 1794

/Gerard T Higgins, Ph.D./  
Examiner, Art Unit 1794

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